NATIONAL PETROLEUM RESERVE IN ALASKA

HISTORY
OF
DRILLING OPERATIONS

KOLUKTAK TEST WELL NO. 1

HUSKY OIL NPR OPERATIONS, INC.
Edited by: S. L. Hewitt & R. G. Brockway

For the

U. S. GEOLOGICAL SURVEY
Office of the National Petroleum Reserve in Alaska
Department of the Interior
JUNE 1983

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KOLUKTAK TEST WELL NO. 1

INTRODUCTION

Koluktak Test Well No. 1 is located in the National Petroleum Reserve in Alaska (Figure 1). The well is located 65 feet from the south line and 1,555 feet from the west line, protracted Section 27, Township 5 North, Range 11 West, Umiat Meridian (Latitude: 69°45'08.62" North; Longitude: 154°36'40.12" West). Alaska State Plane Coordinates are: X = 422,531.28 and Y = 5,759,254.45, Zone 5. Elevations are: Kelly bushing 205 feet; pad 185 feet; and ground 183 feet.

Rig move from Lisburne Test Well No. 1 began on February 17, 1981, and rig-up began on March 3, 1981. Activity at the Koluktak location was completed on May 2, 1981, with demobilization of the rig to Deadhorse.

The well was drilled to a total depth of 5,882 feet. The primary objective was Cretaceous sandstones of the Nanushuk Group. The trap was a combination structural/stratigraphic trap with structural closure to the north, east, and south and a facies change from sandstone to shales to the west.

At the conclusion of the drilling and evaluation operations, the well was abandoned with cement and mechanical plugs set at selected intervals. Husky Oil NPR Operations, Inc. supervised and directed the drilling and support operations as prime contractor to the Department of the Interior, U. S. Geological Survey. Nabors Alaska Drilling, Inc. was the drilling contractor; Nabors Rig 17, an Oilwell 1600, was used to drill the well.

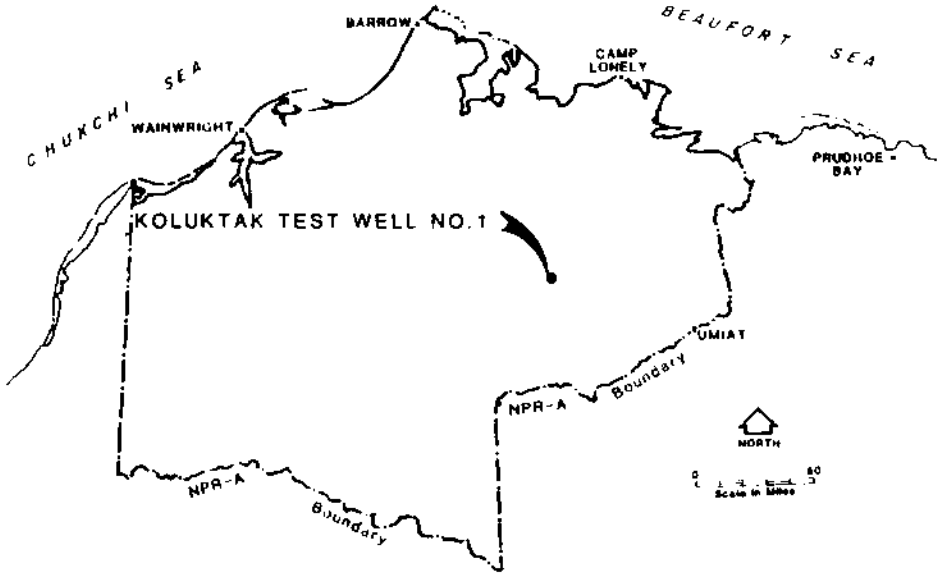


FIGURE 1 - WELL LOCATION MAP - KOLUKTAK NO. 1

DRILLING SUMMARY

Field operations at Koluktak Test Well No. 1 started on January 4, 1981, with the mobilization of construction crews and equipment required to enlarge the drilling pad, originally built in 1980, and to construct an ice airstrip. Construction work was completed on February 17, 1981.

Nabors Rig 17 was moved from the Lisburne wellsite to Koluktak. The rig and camp move began on February 17, 1981, and required 182 Hercules aircraft loads. The rig move was completed March 3, 1981, and rig-up began on that date. Rig-up was completed on March 23, 1981.

Koluktak Test Well No. 1 was spudded March 23, 1981, at 7:30 p.m. with a 12-1/4" bit. Prior to spud, a 20" conductor was set at 106' and cemented to surface with 350 sacks Permafrost cement.

Two mud systems were used to drill the well to avoid damage to forecast reservoirs. A gel mud system at 9.0 to 9.7 ppg was used to a depth of 1538' where 9-5/8" casing was set. From 1538' to total depth at 5882', a $CaCl_2$ mud was used, with mud weights varying from 9.2 to 12.7 ppg.

The $CaCl_2$ mud was used to inhibit possible swelling clays in prospective reservoirs. Swelling clays are known to exist in the Jurassic Barrow sands and Triassic Sag River Sandstone in the Barrow area (susceptibility tests from cores of the South Barrow Nos. 12 and 13 wells). In order to minimize the possibility that these type clays may be present in the Cretaceous sandstones, the $CaCl_2$ mud was used.

A 12-1/4" hole was drilled to 1538'. It was then logged with DIL/SP/GR; BHC-Sonic/GR/TTI; LSS/TTI/GR; and FDC/CNL/CAL/GR. Thirty-five joints of 9-5/8", S-95, 53.5# Buttress casing were run and cemented to surface with 750 sacks Permafrost cement mixed at 14.6 to 14.9 ppg. The shoe was set at 1525'. Drilled out cement, float collar, and shoe, plus 10 feet of formation, then tested formation to an equivalent 11.2 ppg mud weight (160 psi surface pressure with 9.2 ppg mud).

Drilling continued with an 8-1/2" bit to total depth of 5882' and the following logs were run: an initial temperature survey; DLL/GR/Caliper; FDC/CNL/CAL/GR; BHC-Sonic/GR; HDT-Dipmeter; Velocity Survey; and a second temperature survey. Thirty sidewall cores were shot; recovered 24.

After log evaluation, a decision was made to plug and abandon the well. Cement plugs were set as follows: Plug No. 1, in the open hole 3800' to 3550', with 181 sacks Class "G" cement (1% CFR-2); Plug No. 2, in the open hole 2800' to 2700', with 46 sacks Class "G" cement (1% CFR-2); Plug No. 3, in the open hole 2350' to 2200', with 64 sacks Class "G" cement (1% CFR-2); and Plug No. 4, across the 9-5/8" shoe 1650' to 1400', with 90 sacks Class "G" cement (1% CFR-2). The top 1,300 feet of the hole were displaced with diesel. This was to allow re-entry into the upper well bore by U. S. Geological Survey personnel in the future to take temperature recordings. The blowout preventer was nippled down and an abandonment head was installed. The rig was released April 19, 1981, at 12:00 noon.

Nabors Rig 17 and Kodiak Oilfield equipment were shipped to Deadhorse. Demobilization required 13 days and was completed on May 2, 1981.

Detailed drilling information, in the form of bit records, mud summary, time analysis, and casing and cementing reports, is included in the body of this report.

Form 9-331 C
(May 1963)

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R1425

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

NOTICE OF INTENT TO DRILL, DEEPEN, OR PLUG BACK

5. LEASE DESIGNATION AND SERIAL NO.: N/A

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: N/A

7. UNIT AGREEMENT NAME: N/A

8. FARM OR LEASE NAME: National Petroleum Reserve in AK

9. WELL NO.: Koluktak Test Well No. 1

10. FIELD AND POOL, OR WILDCAT: Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA: Sec 27, T5N, R11W, UM

12. COUNTY OR PARISH: North Slope

13. STATE: Alaska

1a. TYPE OF WORK: DRILL [X] . DEEPEN [ ] PLUG BACK [ ]

b. TYPE OF WELL: OIL WELL [ ] GAS WELL [ ] OTHER Wildcat SINGLE ZONE [ ] MULTIPLE ZONE [ ]

2. NAME OF OPERATOR: National Petroleum Reserve in Alaska (through Husky Oil NPR Operations, Inc.)

3. ADDRESS OF OPERATOR: 2525 C Street, Suite 400, Anchorage, AK 99503

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements*)
At surface: 65' FSL; 1555' FWL
At proposed prod. zone: Same (straight hole)

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*: 118 miles southeast of Barrow

15. DISTANCE FROM PROPOSED* LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. (Also to nearest drlg. unit line, if any): 369,600'

16. NO. OF ACRES IN LEASE: 23,600,000

17. NO. OF ACRES ASSIGNED TO THIS WELL: N/A

18. DISTANCE FROM PROPOSED LOCATION* TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.: 126,720'

19. PROPOSED DEPTH: ± 4500'

20. ROTARY OR CABLE TOOLS: Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.): Pad = 185'; GL = 183'; KB = 205'

22. APPROX. DATE WORK WILL START*: March 1, 1980

23. PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
26"	20" Conductor	133# (K-55)	± 100' KB	SEE DRILLING
17 1/2"	13 3/8"	72# (S-95)	± 500'	PROGRAM
12 1/4"	9 5/8"	53.5# (S-95)	± 2600'	FOR DETAILS & AMOUNTS

BOP Program:
From ± 100' KB to ± 500'
20", 2000 psi, SA Diverter Assembly
From ± 500' to ± 2600'
13 5/8", 5000 psi, SRRA BOP Assembly
w/5000 psi Choke Manifold and Kill Lines

See Drilling Program for details.

RECEIVED
DEPUTY CONSERVATION MGR
ONSHORE FIELD OPERATIONS
FEB 10 1981
CONSERVATION DIVISION
U.S. GEOLOGICAL SURVEY
ANCHORAGE, ALASKA

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.
SIGNED Max C Brewer TITLE Chief of Operations ONPRA DATE 6 February 1981

(This space for Federal or State office use)

NO _____ DATE _____

BY _____ ACTING TITLE DISTRICT SUPERVISOR DATE _____
CONDITIONS IF ANY:

*See Instructions On Reverse Side

REVISED 5/31/83

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use Form 9-331-C for such proposals.)

1. oil well ☒ gas well ☐ other

2. NAME OF OPERATOR National Petroleum Reserve in Alaska (through Husky Oil NPR Operations, Inc.)

3. ADDRESS OF OPERATOR
2525 C Street, Suite 400, Anchorage, AK 99503

4. LOCATION OF WELL (REPORT LOCATION CLEARLY. See space 17 below.)
AT SURFACE: 65' FSL; 1555' FWL
AT TOP PROD. INTERVAL:
AT TOTAL DEPTH: Same (straight hole)

5. LEASE
N/A

6. IF INDIAN, ALLOTTEE OR TRIBE NAME
N/A

7. UNIT AGREEMENT NAME
N/A

8. FARM OR LEASE NAME National Petroleum Reserve in Alaska

9. WELL NO.
Koluktak Test Well No. 1

10. FIELD OR WILDCAT NAME
Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Sec 27, T5N, R11W, UM

12. COUNTY OR PARISH | 13. STATE
North Slope Borough, Alaska

14. API NO.

15. ELEVATIONS (SHOW DF, KDB, AND WD)
GL: 183'; Pad: 185'; KB: 205'

16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

NOTICE OF INTENT TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF	☐		☐
FRACTURE TREAT	☐		☐
SHOOT OR ACIDIZE	☐		☐
REPAIR WELL	☐		☐
PULL OR ALTER CASING	☐		☐
MULTIPLE COMPLETE	☐		☐
CHANGE ZONES	☐		☐
ABANDON*	☐		☐
(other) Subsequent Report of Spud			

(NOTE: Report results of multiple completion or zone change on Form 330.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

This well was spudded March 23, 1981, at 7:30 PM. Hole size: 12 1/4". Prior to spud, a 20" conductor was set in a 24" dry-drilled hole and cemented with 350 sacks Permafrost cement at 106' KB.

Subsurface Safety Valve: Manu. and Type _____ Set @ _____ Ft.

18. I hereby certify that the foregoing is true and correct

SIGNED _____ TITLE Chief of Operations DATE _____

(This space for Federal or State office use)

Conforms with pertinent provisions of 30 CFR 221.

_____ TITLE _____ DATE _____

*See Instructions on Reverse Side

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use Form 9–331–C for such proposals.)

1. oil well [X] gas well [ ] other

2. NAME OF OPERATOR National Petroleum Reserve in Alaska (through Husky Oil NPR Operations, Inc.)

3. ADDRESS OF OPERATOR
2525 C Street, Suite 400, Anchorage, AK 99503

4. LOCATION OF WELL (REPORT LOCATION CLEARLY. See space 17 below.)
AT SURFACE: 65' FSL; 1555' FWL
AT TOP PROD. INTERVAL:
AT TOTAL DEPTH: Same (straight hole)

5. LEASE
N/A

6. IF INDIAN, ALLOTTEE OR TRIBE NAME
N/A

7. UNIT AGREEMENT NAME
N/A

8. FARM OR LEASE NAME National Petroleum Reserve in Alaska

9. WELL NO.
Koluktak Test Well No. 1

10. FIELD OR WILDCAT NAME
Wildcat

11. SEC., T., R., M OR BLK. AND SURVEY OR AREA
Sec 27, T5N, R11E, UM

12. COUNTY OR PARISH 13. STATE
North Slope Borough, Alaska

14. API NO.
N/A

15. ELEVATIONS (SHOW DF KDB, AND WD)
KB 205'; GL 183'; Pad 185'

16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

NOTICE OF INTENT TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF	[ ]		[ ]
FRACTURE TREAT	[ ]		[ ]
SHOOT OR ACIDIZE	[ ]		[ ]
REPAIR WELL	[ ]		[ ]
PULL OR ALTER CASING	[ ]		[ ]
MULTIPLE COMPLETE	[ ]		[ ]
CHANGE ZONES	[ ]		[ ]
ABANDON*	[ ]		[ ]
(other) Notice of Intent to Change Plans			

(NOTE: Report results of multiple completion or zone change on Form 9-330.)

MAR 26 1981

CONSERVATION DIVISION

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

The original drilling plan called for 13 3/8" casing to be set at 500', 9 5/8" casing to be set at 2600', and TD to be 4500'. Current plans are to drill a 12 1/4" hole to 1500', cement 9 5/8" casing to surface, and drill an 8 1/2" hole to TD of 6000'.

Subsurface Safety Valve: Manu. and Type _____ Set @ _____ Ft.

18. I hereby certify that the foregoing is true and correct

SIGNED Max S Brewer TITLE Chief of Operations DATE 24 March 81

(This space for Federal or State office use)

Conforms with pertinent provisions of 30 CFR 221.

TITLE _____ DATE _____

*See Instructions on Reverse Side

REVISED 5/31/83

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use Form 9-331-C for such proposals.)

1. oil well [X] gas well [ ] other

2. NAME OF OPERATOR National Petroleum Reserve in Alaska (through Husky Oil NPR Operations, Inc.)

3. ADDRESS OF OPERATOR
2525 C Street, Suite 400, Anchorage, AK 99503

4. LOCATION OF WELL (REPORT LOCATION CLEARLY. See space 17 below.)
AT SURFACE: 65' FSL; 1555' FWL
AT TOP PROD. INTERVAL:
AT TOTAL DEPTH: Same

5. LEASE
N/A

6. IF INDIAN, ALLOTTEE OR TRIBE NAME
N/A

7. UNIT AGREEMENT NAME
N/A

8. FARM OR LEASE NAME National Petroleum Reserve in Alaska

9. WELL NO.
Koluktak Test Well No. 1

10. FIELD OR WILDCAT NAME
Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Sec 27, T5N, R11W, UM

12. COUNTY OR PARISH 13. STATE
North Slope Borough, Alaska

14. API NO.

15. ELEVATIONS (SHOW DF, KDB, AND WD)
GL: 183'; Pad: 185'; KB: 205'

16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

NOTICE OF INTENT TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF	[ ]		[ ]
FRACTURE TREAT	[ ]		[ ]
SHOOT OR ACIDIZE	[ ]		[ ]
REPAIR WELL	[ ]		[ ]
PULL OR ALTER CASING	[ ]		[ ]
MULTIPLE COMPLETE	[ ]		[ ]
CHANGE ZONES	[ ]		[ ]
ABANDON*	[ ]		[ ]

(other) Subsequent Report of Running and Cementing 9 5/8" Casing

(NOTE: Report results of multiple completion or zone change on Form 9-330.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Drilled 12 1/4" hole to 1538'. Logged with DIL/GR/SP, BHC/GR/TTI, FDC/CNL/GR/CAL, LSS/GR/TTI. Ran 35 joints of 9 5/8", S-95, 53.5# Buttress casing. Shoe at 1525'; duplex collar at 1434'; centralizers at 1514', 1481', 1438', and 1396'. Pumped 750 sacks Permafrost cement mixed at 14.6-14.9 ppg. Full returns throughout. Cement in place 3/28/81 at 10:00 AM. Tested blind rams, pipe rams, hydril, upper and lower kelly cock valves, and choke manifold to 3000 psi. Tested casing to 3000 psi. Drilled to 1548'. Tested formation to equivalent 11.2 ppg mud (160 psi surface pressure, with 9.2 ppg mud).

Subsurface Safety Valve: Manu. and Type _____ Set @ _____ Ft.

18. I ~~hereby~~ certify that the foregoing is true and correct

SIGNED _____ TITLE Chief of Operations DATE _____

(This space for Federal or State office use)

Conforms with pertinent provisions of 30 CFR 221.

APPROVED BY _____ TITLE _____ DATE _____

*See Instructions on Reverse Side

REVISED 5/31/83

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use Form 9-331-C for such proposals.)

1. oil well ☒ gas well ☐ other

2. NAME OF OPERATOR National Petroleum Reserve in Alaska (through Husky Oil NPR Operations, Inc.)

3. ADDRESS OF OPERATOR
2525 C Street, Suite 400, Anchorage, AK 99503

4. LOCATION OF WELL (REPORT LOCATION CLEARLY. See space 17 below.)
AT SURFACE: 65' FSL; 1555' FWL
AT TOP PROD. INTERVAL:
AT TOTAL DEPTH: Same (straight hole)

5. LEASE
N/A

6. IF INDIAN, ALLOTTEE OR TRIBE NAME
N/A

7. UNIT AGREEMENT NAME
N/A

8. FARM OR LEASE NAME National Petroleum Reserve in Alaska

9. WELL NO.
Koluktak Test Well No. 1

10. FIELD OR WILDCAT NAME
Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Sec 27, T5N, R11W, UM

12. COUNTY OR PARISH 13. STATE
North Slope Borough, Alaska

14. API NO.

15. ELEVATIONS (SHOW DF, KDB AND WD)
KB: 205'; Pad: 185'; GL: 183'

16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

NOTICE OF INTENT TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF	☐		☐
FRACTURE TREAT	☐		☐
SHOOT OR ACIDIZE	☐		☐
REPAIR WELL	☐		☐
PULL OR ALTER CASING	☐		☐
MULTIPLE COMPLETE	☐		☐
CHANGE ZONES	☐		☐
ABANDON*	☒		☐
(other)			

(NOTE: Report results of multiple completion or zone change on Form 9-330.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

An 8 1/2" hole reached TD of 5882' on April 15, 1981. Open hole logs were subsequently run, with no indication of any potential hydrocarbon bearing zones evident. Beginning on April 16, 1981, the well will be plugged and abandoned as follows:

1. Set a cement plug, 3800'-3550', to contain porosity zone within interval.
2. Set cement plug, 2800'-2700', to contain porosity zone within interval.
3. Set cement plug, 2350'-2200', to contain porosity zone within interval.
4. Set cement plug across 9 5/8" casing shoe (9 5/8" at 1525'), 1650'-1400'.
5. Displace mud in top 1300 feet of hole with diesel.
6. Install dry hole marker.

The above P & A procedure was verbally approved by Bill Hauser on April 16, 1981.

Subsurface Safety Valve: Manu. and Type ____ Set @. ____ Ft.

18. I hereby certify that the foregoing is true and correct

SIGNED ____ TITLE Chief of Operation DATE ____

(This space for Federal or State office use)

Conforms with pertinent provisions of 30 CFR 221.

____ TITLE ____ DATE ____

*See Instructions on Reverse Side

REVISED 5/31/83

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use Form 9–331–C for such proposals.)

1. oil well ☒ gas well ☐ other

2. NAME OF OPERATOR National Petroleum Reserve in Alaska (through Husky Oil NPR Operations, Inc.)

3. ADDRESS OF OPERATOR
2525 C Street, Suite 400, Anchorage, AK 99503

4. LOCATION OF WELL (REPORT LOCATION CLEARLY. See space 17 below.)
AT SURFACE: 65' FSL; 1555' FWL
AT TOP PROD. INTERVAL:
AT TOTAL DEPTH: Same (straight hole)

5. LEASE
N/A

6. IF INDIAN, ALLOTTEE OR TRIBE NAME
N/A

7. UNIT AGREEMENT NAME
N/A

8. FARM OR LEASE NAME National Petroleum Reserve in Alaska

9. WELL NO.
Koluktak Test Well No. 1

10. FIELD OR WILDCAT NAME
Wildcat

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Sec 27, T5N, R11W, UM

12. COUNTY OR PARISH 13. STATE
North Slope Borough, Alaska

14. API NO.

15. ELEVATIONS (SHOW DF, KDB, AND WD)
Pad: 185'; GL: 183'; KB: 205'

16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

NOTICE OF INTENT TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF	☐		☐
FRACTURE TREAT	☐		☐
SHOOT OR ACIDIZE	☐		☐
REPAIR WELL	☐		☐
PULL OR ALTER CASING	☐		☐
MULTIPLE COMPLETE	☐		☐
CHANGE ZONES	☐		☐
ABANDON*	☐		☒
(other)			

(NOTE: Report results of multiple completion or zone change on Form 9–330)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

This well was drilled to a total depth of 5882' and logged. No evidence of hydrocarbon bearing zones was discovered. Received verbal approval from Bill Hauser on 4/15/81 to abandon Koluktak Test Well No. 1. Ran the following logs: Temperature/DLL, 5882' to surface; GR/FDC/CNL, 5878' to 1524'; BHC/GR/Sonic, 5877' to 1524'; HDT, 5876' to 1524'; and Velocity at 5800', 4211', 3723', 3000', 2000', 1500', 1250', 925', 750', 500', and 250'. Shot 30 sidewall cores; recovered 24. Ran Temperature Survey, 5400' to 53'. Set cement plugs as follows: No. 1, 3800' to 3550', with 181 sacks; No. 2, 2800' to 2700', with 46 sacks; No. 3, 2350' to 2200', with 64 sacks; and No. 4, 1650' to 1400', with 90 sacks. Cement used was Class "G" with 1% CFR-2. Displaced top 1300 feet of hole with diesel. Nippled down BOPs. Installed dry hole marker. Released rig April 19, 1981, at 12:00 noon.

Subsurface Safety Valve: Manu. and Type _____ Set @ _____ Ft.

18. I hereby certify that the foregoing is true and correct

SIGNED _____ TITLE Chief of Operations DATE _____

(This space for Federal or State office use)

Conforms with pertinent provisions of 30 CFR 221.

_____ TITLE _____ DATE _____

*See Instructions on Reverse Side

Form 9-330
(Rev. 5-63)

REVISED 5/31/83

Form approved.
Budget Bureau No. 42 R355.5.

SUBMIT IN DUPLICATE*
(See other instructions on reverse side)

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

WELL COMPLETION OR RECOMPLETION REPORT AND LOG*

1a. TYPE OF WELL: OIL WELL ☐ GAS WELL ☐ DRY ☐ Other Wildcat

b. TYPE OF COMPLETION: NEW WELL ☐ WORK OVER ☐ DEEP-EN ☐ PLUG BACK ☒ DIFF. RESVR. ☐ Other

2. NAME OF OPERATOR: National Petroleum Reserve in Alaska (through Husky Oil NPR Operations, Inc.)

3. ADDRESS OF OPERATOR: 2525 C Street, Suite 400, Anchorage, AK 99503

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)*
At surface: 65' FSL; 1555' FWL
At top prod. interval reported below
At total depth: Same (straight hole)

5. LEASE DESIGNATION & SERIAL NO.: N/A

6. IF INDIAN, ALLOTTEE OR TRIBE NAME: N/A

7. UNIT AGREEMENT NAME: N/A

8. FARM OR LEASE: National Petroleum Reserve in AK

9. WELL NO.: Koluktak Test Well No. 1

10. FIELD AND POOL, OR WILDCAT: Wildcat

11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA: Sec 27, T5N, R11W, UM

12. COUNTY OR PARISH: North Slope Borough

13. STATE: AK

14. PERMIT NO.: N/A

DATE ISSUED: N/A

15. DATE SPUDDED: 3/23/81

16. DATE T.D. REACHED: 4/15/81

17. DATE COMPL. (Ready to prod.): N/A

18. ELEVATIONS (DF, RKB, RT, GR, ETC.)*: GL: 183'; Pad: 185'; KB: 205'

19. ELEV. CASINGHEAD: N/A

20. TOTAL DEPTH, MD & TVD: 5882'

21. PLUG, BACK T.D., MD & TVD: 1400'

22. IF MULTIPLE COMPL., HOW MANY*: N/A

23. INTERVALS DRILLED BY: → 0'-TD

ROTARY TOOLS:

CABLE TOOLS: N/A

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)*: N/A

25. WAS DIRECTIONAL SURVEY MADE: Yes

26. TYPE ELECTRIC AND OTHER LOGS RUN: FDC/CNL/GR, BHCS/GR/TTI, LSS, HRT Temperature, DLL/MSFL/GR/SP, CNL/FDC/GR/Cal, BHC/GR/TTI, HDT Dipmeter

27. WAS WELL CORED: Yes

28. CASING RECORD (Report all strings set in well)

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
20"	133# (K-55)	106'	26"	350 Sx Permafrost	None
9 5/8"	53.5# (S-95)	1525'	12 1/4"	750 Sx Permafrost	None

29. N/A — LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)

30. N/A — TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)

31. PERFORATION RECORD (Interval, size and number): N/A

32. N/A — ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED

33.* N/A — PRODUCTION

DATE FIRST PRODUCTION:

PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump):

WELL STATUS (Producing or shut-in): Plugged & Abandoned

DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD →	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO

FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE →	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)

34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)

TEST WITNESSED BY

35. LIST OF ATTACHMENTS: Wellbore Schematic

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records.

SIGNED _____ TITLE Chief of Operations, ONPRA DATE _____

*(See Instructions and Spaces for Additional Data on Reverse Side)

INSTRUCTIONS

REVISED 5/31/83

General: This form is designed for submitting a complete and correct well completion report and log on all types of lands and leases to either a Federal agency or a State agency, or both, pursuant to applicable Federal and/or State laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from, the local Federal and/or State office. See instructions on Items 22 and 24, and 33, below regarding separate reports for separate completions.

If not filed prior to the time this summary record is submitted, copies of all currently available logs (drillers, geologists, sample and core analysis, all types electric, etc.), formation and pressure tests, and directional surveys, should be attached hereto, to the extent required by applicable Federal and/or State laws and regulations. All attachments should be listed on this form, see item 35.

Item 4: If there are no applicable State requirements, locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local State or Federal office for specific instructions.

Item 18: Indicate which elevation is used as reference (where not otherwise shown) for depth measurements given in other spaces on this form and in any attachments.

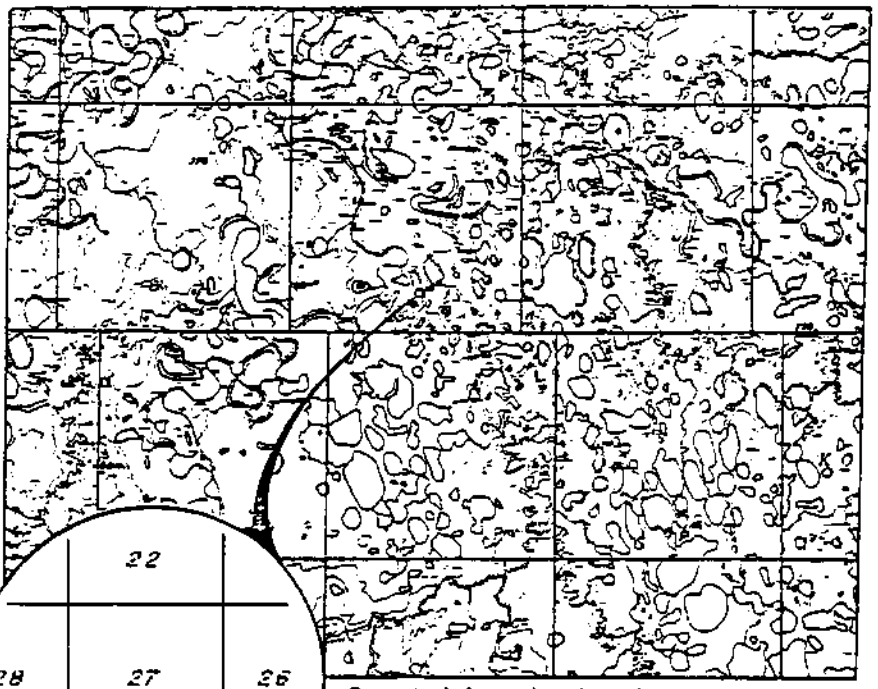
Items 22 and 24: If this well is completed for separate production from more than one interval zone (multiple completion), so state in Item 22, and in Item 24 show the producing interval, or intervals, top(s), bottom(s) and name(s) (if any) for only the interval reported in item 33. Submit a separate report (page) on this form adequately identified, for each additional interval to be separately produced, showing the additional data pertinent to such interval.

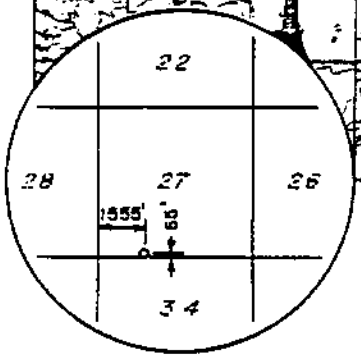
Item 29: "*Sacks Cement*": Attached supplemental records for this well should show the details of any multiple stage cementing and the location of the cementing tool.

Item 33: Submit a separate completion report on this form for each interval to be separately produced. (See instruction for Items 22 and 24 above.)

37. SUMMARY OF POROUS ZONES: SHOW ALL IMPORTANT ZONES OF POROSITY AND CONTENTS THEREOF; CORED INTERVALS; AND ALL DRILL-STEM TESTS, INCLUDING DEPTH INTERVAL TESTED, CUSHION USED, TIME TOOL OPEN, FLOWING AND SHUT-IN PRESSURES, AND RECOVERIES				38. GEOLOGIC MARKERS		
FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.	NAME	DIL TOP MEAS. DEPTH	Depth TRUE VERT. DEPTH
ZONES OF POROSITY						
Nanushuk Group	3724'	3742'	Shaley sandstone with 2650 units gas. Log analysis indicates porosity of 8-14% and water saturation of 100%. No conventional cores were cut. No DSTs.	Nanushuk Group Torok Formation	Surface 3947'	

U.S. GOVERNMENT PRINTING OFFICE: 1983 - O-661-538





Computed location based on data from Barr Automated Surveys, Inc. to Husky Oil NPR Operations, Inc. dated Aug. 11, 1979, a copy of which is on file with Tectonics, Inc., Anchorage, AK.

KOLUKTAK 4-80

LAT. = 69°45'08.62"
LONG. = 154°36'40.12"
Y = 5,759,254.45
X = 422,531.28
ZONE 5

CERTIFICATE OF SURVEYOR

I hereby certify that I am properly registered and licensed to practice land surveying in the State of Alaska and that this plat represents a location survey made by me or under my supervision, and that all dimensions and other details are correct.

0 2 4 6
SCALE MILES

AS STAKED

KOLUKTAK TEST WELL No. 1

LOCATED IN

SW 1/4 PROTRACTED SEC. 27, T5N, R11W, UMIAT MERIDIAN, AK.

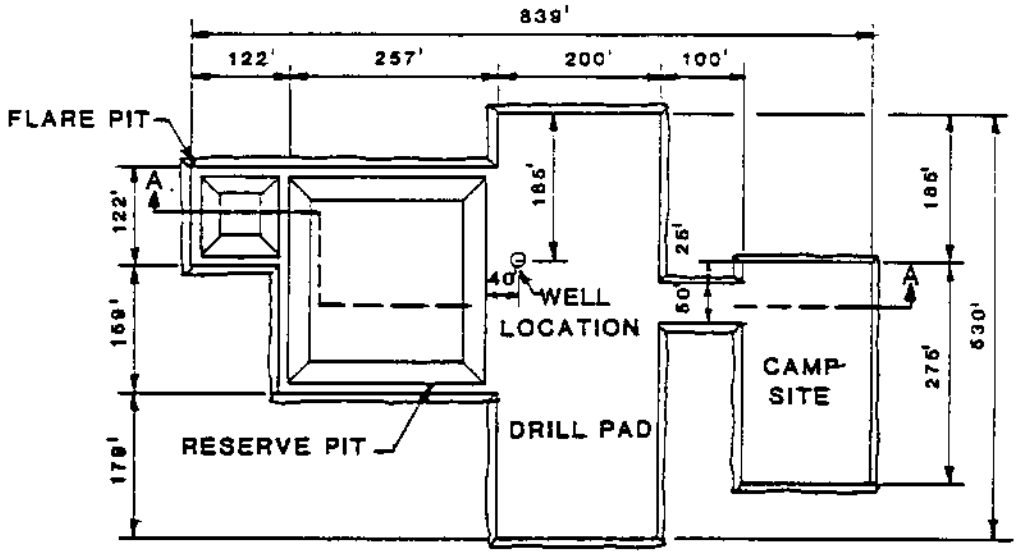
SURVEYED FOR

HUSKY OIL

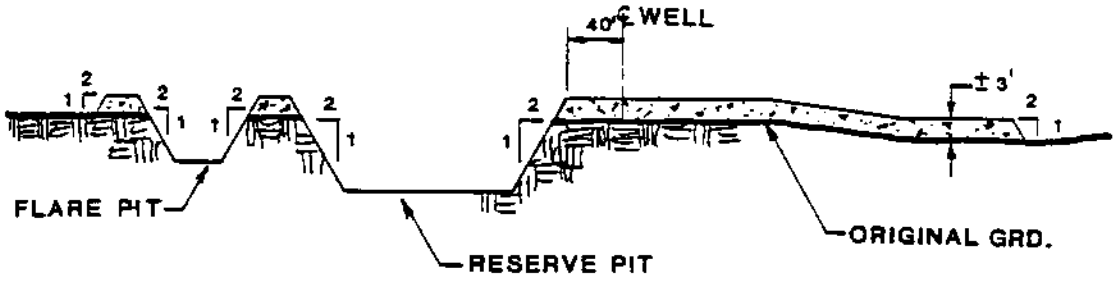
N.P.R. OPERATIONS, INC.

TECTONICS INC.

P.O. BOX 4-2266, ANCHORAGE, AK 99509



PLAN VIEW



SECTION A-A

KOLUKTAK DRILL PAD

OPERATIONS HISTORY

DATE AND FOOTAGE DRILLED AS OF 6:00 A.M.	ACTIVITY
2/17/81 through 3/3/81	Moving rig and setting up rig camp.
3/4/81 through 3/19/81	Rigging up.
3/20/81	Thawed conductor pipe (previously set at 106') and cemented with 350 sacks Permafrost cement. Cement in place at 11:45 a.m. Filled mud tanks with water; repaired leaks. Rigged up stand pipe and survey line. Cut off conductor pipe; prepared to weld on 20" head.
3/21/81	Welded on 20" head and tested to 750 psi. Set in diverter spool, 20" Hydril, and flow nipple. Rigged up 6" diverter lines. Mixed mud.
3/22/81	Nippled down and set out 20" blowout preventer. Set in National spool and 13-3/8" blowout-preventer stack and nippled up same.
3/23/81	Nippled up and installed wear bushing; checked rams for closure. Checked Hydril; top seals were leaking. Dismantled Hydril and changed all seals.
3/24/81 122'	Total Depth: 228'; Mud Weight: 9.0; Viscosity: 72. Replaced seals in Hydril. Picked up bottom-hole assembly. Thawed air lines and repaired leaks in mud lines. Packed and repacked swivel. Tested casing to 250 psi. Spudded well March 23, 1981, at 7:30 p.m. Drilled to 204'; surveyed. Drilled ahead.
3/25/81 524'	TD: 752'; MW: 9.2; Vis: 74. Picked up drill collars and jars. Drilled to 268'; worked on No. 1 engine. Drilled to 313'; worked on No. 2 engine. Drilled to 469'; packed and repacked swivel. Drilled to 752'; surveyed; had two misruns.
3/26/81 608'	TD: 1360'; MW: 9.4; Vis: 49. Drilled to 970'; unplugged flow line. Drilled to 1064'; tripped for bit; no fill. Picked up 10 joints of drill pipe. Drilled to 1087'; circulated samples. Drilled to 1150'; circulated samples. Drilled ahead.

3/27/81 178'	TD: 1538'; MW: 9.7; Vis: 78. Drilled to 1538'; circulated and conditioned hole; surveyed. Short tripped seven stands; waited to check fill. Ran in hole with seven stands. Pulled out of hole to log. Rigged up logging unit. Started in hole but hit bridge at 700'. Rigged down logging unit. Ran in hole; hit bridge at 1344'. Washed and reamed 194 feet to. bottom. Circulated and conditioned hole; spotted gel pill. Pulled out of hole; thawed out air lines. Finished pulling out of hole. Rigged up logging unit and ran in hole to log.
3/28/81 0'	TD: 1538'; MW: 9.6; Vis: 55. Ran DIL/SP/GR, CNL/FDC/GR/CAL, BHC-Sonic/GR/TTI, and LSS/GR. Ran in hole; circulated and conditioned hole. Pulled out of hole to run casing. Pulled wear bushing. Rigged up and ran 35 joints of 9-5/8", S-95, 53.5# Buttress casing. Shoe at 1525'; duplex collar at 1434'; centralizers at 1514', 1481', 1438', and 1396'. Circulated casing.
3/29/81 0'	TD: 1538'; MW: 9.4; Vis: 50. Ran in hole with Howco stinger to 1434'; circulated down drill pipe. Tested lines to 2,000 psi. Pumped 20 barrels of water ahead of 750 sacks of Permafrost cement mixed at 14.6 to 14.9 ppg. Had full returns throughout with cement returns at 14.6 ppg. Displaced cement with two barrels of water and 20 barrels of mud. Released pressure and checked float. Cement in place at 10:00 a.m. Rigged down cementing unit; washed down blowout preventer and casing head. Pulled out of hole with duplex stinger and laid down same. Set 9-5/8" slips and packoff. Tested same to 3,000 psi. Nippled up blowout preventers, choke, and choke lines.
3/30/81 0'	TD: 1538'; MW: 9.4; Vis: 31. Finished nippling up blowout preventers. Laid lines to pit from choke manifold. Attempted to get test plug to hold. Changed valve on spool; changed valve on choke manifold. Repaired leaks on lines and flanges. Tested blind rams, pipe rams, Hydril, and upper and lower kelly cock valve with 3,000 psi. Tested choke manifold to 3,000 psi. Changed mud system to $CaCl_2$.
3/31/81 353'	TD: 1891'; MW: 9.2; Vis: 37. Finished testing choke manifold. Laid down 7-3/4" drill collars and installed wear bushing. Picked up bottom-hole assembly; laid down 5" drill pipe; picked up 5" Heavy Wate drill pipe. Tested 9-5/8" casing to 3,000 pounds. Drilled cement, float collars, cement, float shoe, and 10 feet of formation. Tested formation to 0.58 gradient, 11.2 mud weight equivalent. Drilled to 1687'; waited on fuel; drilled ahead.

4/1/81 607'	TD: 2498'; MW: 9.2; Vis: 43. Drilled to 2030'. Pumped pill; tripped for bit. Reamed 120 feet to bottom; drilled to 2202'. Circulated 800 units of gas. Drilled to 2435'; circulated samples. Drilled to 2498'.
4/2/81 133'	TD: 2631'; MW: 9.4; Vis: 36. Pulled out of hole with bit; tripped in hole with new bit. Reamed bridge at 2370'; washed and reamed to bottom. Drilled to 2631'. Repaired mud lines; worked pipe; surveyed. Worked stuck pipe; pulled 225,000 pounds maximum weight. String weight: 100,000 pounds. Repaired mud lines. Circulated 46 SPM at 1,400 psi; worked stuck pipe. Removed discharge valve while circulating. Rigged up to spot diesel oil. Circulated; spotted 30 barrels of diesel; 19 in drill pipe and 11 around bottom-hole assembly.
4/3/81 99'	TD: 2730'; MW: 9.4; Vis: 54. Continued working stuck pipe. Circulated and conditioned mud; hole packed off initially. Pumped fresh-water pill through hole to strip off wall cake. Pumped 30 barrels of mud; followed mud with 70 barrels diesel containing 3.3 gallons per barrel of Free Pipe. Pumped 35 barrels into annulus, leaving 35 barrels in drill pipe. Worked drill pipe from 180,000 pounds to 50,000 pounds. Jars began operating at 9:00 p.m. Jarred four times; had seven feet of free movement. Worked rotary bushings into table; began rotating. Reamed 15 feet to bottom. Pulled up; hole began packing off. Worked free. Drilled to 2730'; circulated bottoms up. Pulled out of hole with bit; tight at 2500'.
4/4/81 451'	TD: 3181'; MW: 9.9; Vis: 50. Tripped in with new bit. Drilled to 2829'; repaired rig compound air compressor. Drilled to 3035'. Hole fell in and packed off; worked drill string free. String weight: 105,000 pounds. Worked string up to maximum of 120,000 pounds then reamed down; repeated operation until hole was free and clean. Drilled to 3181'; hole sloughed in while drilling at 3145'. Hole circulated clean while drilling.
4/5/81 419'	TD: 3600'; MW: 10.3; Vis: 44. Drilled to 3188'; tripped for bit; serviced rig. Drilled ahead.
4/6/81 233'	TD: 3833'; MW: 11.7; Vis: 50. Drilled to 3654'; dropped survey. Pulled out of hole for bit. Ran in hole; drilled to 3733'. Had a 15-barrel pit volume increase. Picked up kelly; closed well in. Had 2,560 units of gas; no drill pipe shut-in pressure.

	Circulated through choke; mud highly gas cut. Total pressure on casing: 50 psi. Stand-pipe pressure: 650 to 750 psi. Worked drill pipe. Increased mud weight to 11.3 ppg. Circulated and conditioned mud. Drilled to 3738'; circulated for samples. Drilled to 3785'; circulated. Drilled ahead.
4/7/81 158'	TD: 3991'; MW: 11.9; Vis: 46. Drilled to 3954'; circulated bottoms up. Checked well for flow. Pulled out of hole; checked for flow at bottom of 9-5/8" casing; no flow. Tested blowout-preventer stack to 3,000 psi. Ran in hole with bit; drilled ahead.
4/8/81 294'	TD: 4285'; MW: 12; Vis: 47. Drilled to 4093'; serviced rig. Drilled to 4101'; circulated out 1,600 units of gas. Drilled ahead.
4/9/81 207'	TD: 4492'; MW: 12.4; Vis: 40. Drilled to 4492'. Pulled out of hole for Turbodrill; laid down monel collar; picked up Turbodrill in effort to increase rate of penetration.
4/10/81 216'	TD: 4708'; MW: 12.5; Vis: 41. Ran in hole with Turbodrill to 4492'; Turbodrilled to 4684'. Repaired mud indicator; drilled ahead.
4/11/81 331'	TD: 5039'; MW: 12.6; Vis: 41. Drilled to 4813'; serviced rig. Drilled ahead.
4/12/81 167'	TD: 5206'; MW: 12.6; Vis: 43. Drilled to 5107'; pulled out of hole; laid down Turbodrill. Picked up bottom-hole assembly; steel-line measured going into hole. Reamed 55 feet to bottom; hole conditions were good; no fill. Drilled ahead.
4/13/81 243'	TD: 5449'; MW: 12.6; Vis: 49. Drilled to 5291'; serviced rig. Drilled to 5449'.
4/14/81 208'	TD: 5657'; MW: 12.7; Vis: 46. Drilled to 5510'; repaired pump. Short tripped 10 stands; hole condition was good. Serviced rig. Ran in hole with 10 stands; washed 30 feet to bottom; had two feet of fill. Drilled to 5657'.
4/15/81 136'	TD: 5793'; MW: 12.7; Vis: 40. Drilled to 5730'; serviced rig. Started drilling at 5730'; bit locked up. Surveyed; pulled out of hole with bit. Tested blowout-preventer stack to 3,000 psi. Ran in hole with bottom-hole assembly and bit. Reamed and washed to bottom; had seven feet of fill. Drilled ahead.

4/16/81 89'	TD: 5882'; MW: 12.7; Vis: 43. Drilled to 5882'; circulated bottoms up. Pulled out of hole for 15-stand short trip. Hole condition was good. Serviced rig. Ran in hole with 15 stands; circulated to log. Dropped survey. Pulled out of hole to log, steel-line measuring; no correction. Laid down bottom-hole assembly. Rigged up logging unit. Ran HRT-Temperature (two runs), GR/CAL/DLL/MSFL, and GR/CAL/CNL/FDC.
4/17/81 0'	TD: 5882'; MW: 12.7; Vis: 43. Continued logging. Ran GR/BHC-Sonic and HRD-Dipmeter. Logging tool malfunctioned; pulled out of hole for repairs. Ran back in hole; tool malfunctioned again; pulled out of hole.
4/18/81	TD: 5882'; PBTD: 1400'. Ran back in hole. Ran Velocity Survey. Shot 30 sidewall cores; recovered 24. Ran Temperature Survey. Laid down bottom-hole assembly; ran in hole open-ended. Circulated and conditioned mud. Rigged up cementing unit in preparation for plugging the well. Set Plug No. 1 from 3800' to 3550' with 181 sacks Class "G" cement with 1% CFR-2; set Plug No. 2 from 2800' to 2700' with 46 sacks Class "G" cement with 1% CFR-2; set Plug No. 3 from 2350' to 2200' with 64 sacks Class "G" cement with 1% CFR-2; set Plug No. 4 from 1650' to 1400' with 90 sacks Class "G" cement with 1% CFR-2. Each plug was preceded with five barrels of water and followed by one barrel of water. Rigged down cementing unit; began disassembling rig floor equipment. Began laying down drill pipe and Heavy Wate drill pipe. Waited on cement.
4/19/81	TD: 5882'; PBTD: 1400'. Continued laying down drill pipe. Rigged up to circulate with mud and displace with water. Displaced water with diesel from 1300' to surface. Finished laying down drill pipe. Rigged down floor; nippled down blowout preventers; cleaned mud tanks.
4/20/81	TD: 5882'; PBTD: 1400'. Released rig April 19, 1981, at 12:00 noon. Finished nippling down blowout preventers; finished cleaning mud tanks. Installed dry-hole marker. Rigged down windwalls, floor, mud pumps, steam lines and heaters. Laid down derrick.
4/21/81	Moved out mud tanks and rigged them down. Moved out boilers, mud pumps, hot-air ducts, and one rig generator. Rigged down substructure and floor wings; removed rig floor, dog house, motors and compound. Removed sheds from motors.

4/22/81	Finished rigging down mud tanks; removed derrick from sub and took it apart. Removed draw works; cleaned ice off matting boards. Removed engine subbase; started rigging down subbase. Began building Herc loads.
4/23/81 through 5/2/81	Moved rig and support equipment to Deadhorse; moved Husky property to Camp Lonely and Anchorage.

DRILLING TIME ANALYSIS

KOLUKTAK TEST WELL NO. 1

NABORS ALASKA DRILLING, INC., RIG 17

Spudded 3/23/81, Rig released 4/19/81

Total Depth: 5,882 Feet

DRILLING TIME ANALYSIS (HOURS) - HUSKY NPR OPERATIONS, INC. KOLUKTAK TEST WELL NO. 1 Page 1 of 6

DATE	RIG UP/RIG DOWN	DRILLING	REAMING	TRIP	DEV. SURVEY	RIG MAINT.	RIG REPAIR	CIRC. & COND. MUD	LOGGING	CASING & CEMENT	W O C	NIPPLE UP/DOWN BOP	TEST BOP	CHANGE BHA	LOST CIRC.	FISHING	CORING	DST	PLUG BACK	SQUEEZE CEMENT	DIR. WORK	W O MAT./EQUIP.	OTHER	Operations at 6:00 a.m.	Comments
1981 2-17																							24	Moving Rig	Moved Rig From Lisburne Test Well No. 1
2-18																							24	Moving Rig	
2-19																							24	Moving Rig	
2-20																							24	Moving Rig	
2-21																							24	Moving Rig	
2-22																							24	Moving Rig	
2-23																							24	Moving Rig	
2-24																							24	Moving Rig	
2-25																							24	Moving Rig	
2-26																							24	Moving Rig	
2-27																							24	Setting Up Camp	
2-28																							24	Setting Up Camp	
3-1																							24	Setting Up Camp	
3-2																							24	Setting Up Camp	
3-3	24																							Rigging Up	

DRILLING TIME ANALYSIS (HOURS) - HUSKY NPR OPERATIONS, INC. KOLUKTAK TEST WELL NO. 1 Page 2 of 6

DATE	RIG UP & DOWN	DRILLING	REAMING	TRIP	DEV. SURVEY	RIG MAINT.	RIG REPAIR	CIRC. & COND. MUD	LOGGING	CASING & CEMENT	W O C	NIPPLE UP/DOWN BOP	TEST BOP	CHANGE BHA	LOST CIRC.	FISHING	CORING	DST	PLUG BACK	SQUEEZE CEMENT	DIR. WORK	W O MAT./EQUIP.	OTHER	Operations at 6:00 a.m.	Comments
3 4	24																							Rigging Up	
3 5	24																							Rigging Up	
3 6	24																							Rigging Up	
3 7	24																							Rigging Up	
3 8	24																							Rigging Up	
3 9	24																							Rigging Up	
3 10	24																							Rigging Up	
3 11	24																							Rigging Up	
3 12	24																							Rigging Up	
3 13	24																							Rigging Up	
3 14	24																							Rigging Up	
3 15	24																							Rigging Up	
3 16	24																							Rigging Up	
3 17	24																							Rigging Up	
3 18	24																							Rigging Up	

DRILLING TIME ANALYSIS (HOURS) - HUSKY NPR OPERATIONS, INC. KOLUKTAK TEST WELL NO. 1 Page 3 of 6

DATE	RIG UP/RIG DOWN	DRILLING	REAMING	TRIP	DEV. SURVEY	RIG MAINT.	RIG REPAIR	CIRC. & COND. MUD	LOGGING	CASING & CEMENT	W O C	NIPPLE UP/DOWN BOP	TEST BOP	CHANGE BHA	LOST CIRC.	FISHING	CORING	DST	PLUG BACK	SQUEEZE CEMENT	DIR. WORK	W O MAT./EQUIP.	OTHER	Operations at 6:00 a.m.	Comments
3-19	24																							Rigging Up	
3-20	12											12												Rigging Up	Set 20" at 106'
3-21												24												Nippling Up BOP	
3-22							6					18												Nippling Up BOP	
3-23		4½		2½			7½					9											½	Nippling Up BOP	Spudded Well at 7:30 p.m.
3-24		11		2	1½		9½																	Laying Down Drill Pipe	
3-25		15		5	1½	1		1½																Surveying	
3-26		9½	1½	6	1			4½	1½															Drilling	Ran Schlumberger Wireline Logs
3-27				7				1½	12½	1													2	Logging	
3-28				4¼				1½		11½		7												Circulating	
3-29										24														Cutting Off Casing	Set 9 5/8" at 1525'
3-30		5		12½			1						5½											Testing Blind Rams	
3-31		15½	1½	5			1	1																Drilling	
4-1		7¼	3¾	3		½	2½	½															6½	Drilling	
4-2		1½						14															8½	Working Stuck Pipe	

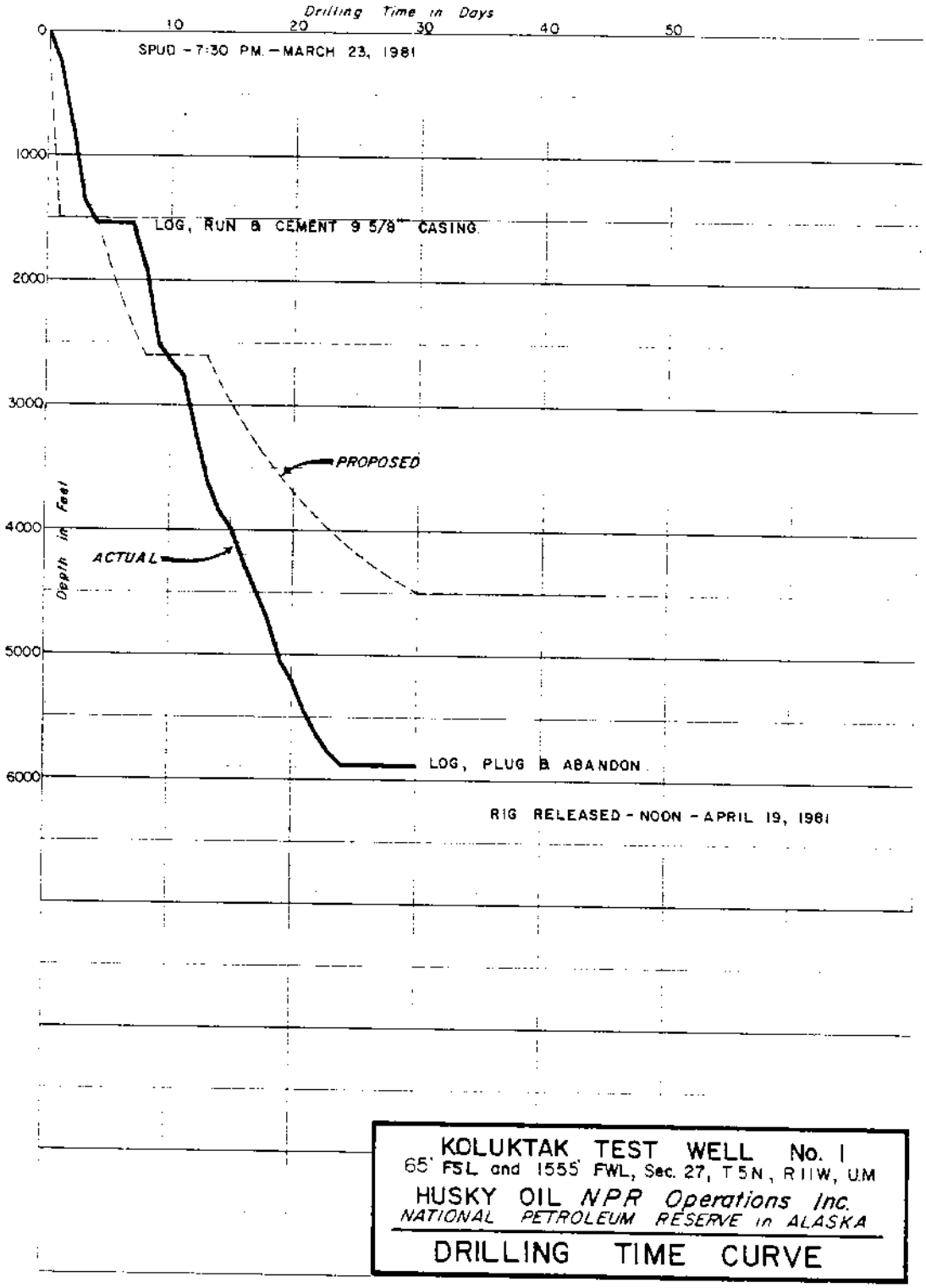
DATE	RIG UP & TEAR DOWN	DRILLING	REAMING	TRIP	DEV. SURVEY	RIG MAINT.	RIG REPAIR	CIRC. & COND. MUD	LOGGING	CASING & CEMENT	W O C	NIPPLE UP/DOWN BOP	TEST BOP	CHANGE BHA	LOST CIRC.	FISHING	CORING	DST	PLUG BACK	SQUEEZE CEMENT	DIR. WORK	W O MAT./EQUIP.	OTHER	Operations at 6:00 a.m.	Comments
4-3		16½	1½	4			1½	½																Running In Hole	
4-4		18½		5		½																		Drilling	
4-5		15		3¾	½			½															4¼	Drilling	
4-6		14½		2½				2¾					4½											Drilling	
4-7		21		2		½		½																Drilling	
4-8		23½			½																			Drilling	
4-9		19½		4																			4½	Picking Up Turbodrill	
4-10		23				1																		Drilling	
4-11		17		4½				½															2	Drilling	
4-12		23½				½																		Drilling	
4-13		22½		1		½																		Drilling	
4-14		15		4		½		1					3½											Drilling	
4-15		14		4¾		½		2¾	2															Drilling	
4-16									24															Logging	Ran Schlumberger Wireline Logs
4-17	8½			1				3½															11	Laying Down Drill Pipe	Shot 30 sidewall cores; recovered 24.

DRILLING TIME ANALYSIS (HOURS) - HUSKY NPR OPERATIONS, INC. KOLUKTAK TEST WELL NO. 1 Page 5 of 6

DATE	RIG UP/RIG DOWN	DRILLING	REAMING	TRIP	DEV. SURVEY	RIG MAINT.	RIG REPAIR	CIRC. & COND. MUD	LOGGING	CASING & CEMENT	W O C	NIPPLE UP/DOWN BOP	TEST BOP	CHANGE BHA	LOST CIRC.	FISHING	CORING	DST	PLUG BACK	SQUEEZE CEMENT	DIR. WORK	W O MAT./EQUIP.	OTHER	Operations at 6:00 a.m.	Comments
4-18				1½				4½	14½										3½					Logging	Set Plugs 1, 2, 3, & 4
4-19	15											9												Nippling Down BOP	Released Rig at 12:00 noon
4-20	24																							Rigging Down	
4-21	24																							Rigging Down	
4-22	24																							Rigging Down	
4-23																							24	Making Up Herc Loads	Demobilized Rig To Deadhorse.
4-24																							24	Making Up Herc Loads	
4-25																							24	Making Up Herc Loads	
4-26																							24	Unloading Hercs	
4-27																							24	Unloading Hercs	
4-28																							24	Stacking Rig	
4-29																							24	Stacking Rig	
4-30																							24	Stacking Rig	
5-1																							24	Unloading Hercs	
5-2																							12	Inspecting Location	

DRILLING TIME ANALYSIS (HOURS) - HUSKY NPR OPERATIONS, INC. KOLUKTAK TEST WELL NO. 1 Page 6 of 6

DATE	RIG UP/RIG DOWN	DRILLING	REAMING	TRIP	DEV. SURVEY	RIG MAINT.	RIG REPAIR	CIRC. & COND. MUD	LOGGING	CASING & CEMENT	W O C	NIPPLE UP/DOWN BOP	TEST BOP	CHANGE BHA	LOST CIRC.	FISHING	CORING	DST	PLUG BACK	SQUEEZE CEMENT	DIR. WORK	W O MAT./EQUIP.	OTHER	Operations at 6:00 a.m.	Comments
	515½	8¼		5		29		54½		-0-		13½		-0-		-0-		3½		-0-		603¼			
TOTAL HOURS	308½	85¼	5½	41		36¼		79		-0-		-0-		-0-		-0-		-0-		-0-					


Drilling Time in Days
0
10
20
30
40
50
SPUD - 7:30 PM. - MARCH 23, 1981
1000
LOG, RUN & CEMENT 9 5/8" CASING
2000
3000
PROPOSED
Depth in Feet
4000
ACTUAL
5000
6000
LOG, PLUG & ABANDON
RIG RELEASED - NOON - APRIL 19, 1981
KOLUKTAK TEST WELL No. 1
65' FSL and 1555' FWL, Sec. 27, T 5 N, R 11 W, U.M
HUSKY OIL NPR Operations Inc.
NATIONAL PETROLEUM RESERVE in ALASKA
DRILLING TIME CURVE

DRILLING MUD RECORD

ARCTIC DRILLING SERVICES

COMPANY Husky Oil NPR Operations, Inc. STATE Alaska CASING PROGRAM: 9 5/8 inch at 1525 ft.

WELL Koluktak Test Well No. 1 COUNTY North Slope Borough _____ inch at _____ ft.

CONTRACTOR Nabors Alaska Drilling LOCATION NPRA SEC 27 TWP 5N RNG 11W _____ inch at _____ ft.

STOCKPOINT _____ DATE _____ TOTAL DEPTH 5882 ft.

DATE	DEPTH	WEIGHT	VISCOSITY		Yp	GELS	pH	FILTRATION			FILTRATE ANALYSIS				SAND %	RETORT			CEC	REMARKS AND TREATMENT
1981	feet	lb/gal	Sec API @ °F	PV @ °F		10 sec/ 10 min	Strip Ø Meter Ø	ml API	HTHP ml @ °F	Cake 32nds	Pf	Mf	Cl ppm	Ca ppm		Solids %	Oil %	Water %	Mud, ml/ml	
3/21	0	8.5	67	9	30	6/15	10.2	5		2	1.7	2.0	700	50		6		94	25	Mixed spud mud.
22	0	8.5	70	10	30	5/18	10.2	5		2	1.7	2.0	700	60		6		94	25	
23	0	8.5	70	10	30	5/18	10.2	5		2	1.7	2.0	700	60		6		94	25	
24	215	9.0	72	17	59	8/20	11.2	4		2	2.4	3.0	700	60	1¼	7		93	26	
25	688	9.2	74	20	24	10/28	10.2	6.8		2	1.2	2.0	400	50	1⅓	8		92	28	
26	1350	9.4	49	20	14	10/24	10.0	6.4		2	.8	1.6	300	40	1¼	8		92	28	
27	1530	9.7	78	40	38	15/30	10.0	7.6		2	.7	1.6	300	40	1¼	9		91	33	
28	1530	9.6	55	25	16	8/20	10.0	6.8		2	.7	1.5	300	40	1	7		93	32	
29	1530	9.4	50	24	16	8/20	9.5	6.6		2	.5	1.2	200	40	1	8		92	28	
30	1530	9.4	31	5	8	4/5	7.3	4.0		2	.1	.23	70000	39200	0	6		94	24	Mixed $CaCl_2$ mud.
31	1795	9.2	37	9	20	4/8	7.3	24		2	.1	.2	68000	38080	1¼	8		92	28	
4/1	2435	9.2	43	8	16	4/10	8.9	26		2	.2	.4	60000	33600	1¼	8		92	30	800 units gas; raised mud weight
2	2614	9.4	36	10	14	7/14	7.8	18		3	.2	.36	52000	29120	¼	8		92	30	Stuck pipe; spotted diesel.
3	2730	9.4	54	15	29	8/20	9.0	18.8		2	.7	1.2	21000	11760	¼	8	8	84	32	Spotted Free Pipe.
4	3156	9.9	50	13	30	10/28	10.0	9.0		3	1.0	1.8	16000	8960	¼	10	7	83	32	
5	3570	10.3	44	15	23	10/26	10.5	10.6		3	1.0	2.2	9500	5320	Tr	12	4	84	31	
6	3870	11.7	50	15	35	12/28	9.5	14.5		3	.8	1.6	20000	11200	Tr	20	4	76	31	Ten barrel kick; raised weight
7	3980	11.9	46	16	13	8/18	9.5	12.6		3	.7	1.6	19000	10690	¼	22	3	75	30	
8	4275	12.0	47	16	13	5/18	10.0	10.4		2	1.1	1.9	16000	8960	¼	22	4	74	31	
9	4492	12.4	40	21	10	5/15	9.5	10.0		2	.7	1.3	20000	11200	Tr	24	3	73	32	
10	4692	12.5	41	20	13	5/16	10.0	8.6		2	.6	1.1	20000	11200	Tr	24	3	73	32	Drilling with Turbodrill.
11	5025	12.6	41	22	12	5/16	10.0	8.8		2	.8	1.4	19000	10640	Tr	25	3	72	32	Drilling with Turbodrill.
12	5195	12.6	43	22	10	6/20	9.5	8.6		2	.6	1.2	19000	10640	½	25	2	73	32	
13	5440	12.6	49	28	14	8/24	9.5	8.8		2	.7	1.3	18500	10360	½	26	2	72	32	
14	5650	12.7	46	24	12	6/20	9.5	8.5		2	.8	1.4	18500	10360	½	26	2	72	32	
15	5780	12.7	40	21	8	6/18	9.5	8.4		2	.8	1.6	16000	8960	Tr	26	1	73	32	
16	5883	12.7	43	22	10	5/15	9.5	8.5		2	.7	1.6	14000	7840	Tr	26	1	73	32	
17	5883	12.7	43	22	10	5/15	9.5	8.5		2	.7	1.6	14000	7840	Tr	26	1	73	32	

BIT RECORD

COMPANY	CONTRACTOR		COUNTY	STATE
Husky Oil NPR Operations	Nabors Alaska Drilling		North Slope Borough	Alaska
LEASE	**WELL NO**	**SEC**	**TOWNSHIP**	**RANGE**	**BLOCK**	**FIELD**
National Petroleum Reserve	Koluktak T.W. No. 1	27	5N	11W		

TOOL PUSHER	DRILL PIPE	DRAW WORKS	
DAY DRILLER	TOOL JOINT MAKE / SIZE / TYPE	POWER H.P.	UNDER SURF
EVENING DRILLER	DRILL COLLAR NO / O.D. / I.D. / LENGTH	PUMP NO. 1 MAKE / MODEL / STROKE	INT. DATE
MORNING DRILLER	DRILL COLLAR NO / O.D. / I.D. / LENGTH	PUMP NO. 2 MAKE / MODEL / STROKE	T.D. DATE

BIT NO	BIT SIZE	BIT MFGR	BIT TYPE	SERIAL NO OF BIT	JET SIZE 1	2	3	DEPTH OUT	FTGE	HOURS RUN	ACC HOURS	FT/HR	WEIGHT 1000 LBS	ROTARY R P M	VERT DEV	PUMP PRESS	PUMPS No	Liner	SPM	MUD Wt	Vis	DULL CODE T	B	G	REMARKS FORMATION, CIRC FLUID, ETC	DATE
1	12¼	Reed	S13	743443	14	14	14	1064	958	29	29	33	25/30	120/125	½°	1000	1	6"	56	9.5	74	5	4	I		
2	12¼	Reed	S11	911827	14	14	14	1538	474	11	40	43	25/40	120/125	1°	1000	1	6"	56	9.5	74	3	2	I		
3	8½	Reed	S13G	906116	12	12	12	2030	492	13	53	38	35/40	120/135	-	1575	1	6"	56	9.3	43	6	4	I		
4	8½	Reed	S13G	906115	12	12	12	2490	460	12.75	65.75	36	35/45	100/125		1775	1	6"	60	9.4	36	7	8	I		
5	8½	Reed	S13G	921867	11	12	12	2730	240	8.25	74	29	35/45	100/125	1°	1950	½	6"	52	9.4	54	5	5	I		
6	8½	Reed	S13G	906113	12	12	12	3188	458	20.5	94.5	22	35/45	100/85		1800	½	6"	53	9.9	50	5	7	I		
7	8½	STC	DSJ	MJ451	12	12	12	3654	466	21	115.5	22	40/45	80/100	1 3/4°	1950	½	6"	53	11.7	50	6	7	I		
8	8½	STC	DSJ	MK670	12	12	12	3954	300	19.75	135.25	15	40/50	70/90		1950	½	6"	55	11.9	46	5	7	I		
9	8½	HTC	J22	VS676	12	13	13	4492	538	44.5	179.75	12	45/55	75/85	3 3/4°	1900	½	6"	57	12.4	40	2	2	I		
10	8½	D1a	LX16	81096	14	14	14	5107	615	51	230.75	12	16/22	40/675		2250	½	6"	50	12.6	41	New Cond.				
11	8½	STC	F-2	BL4098	13	13	14	5730	623	63	293.75	10	40/55	60/75		2000	½	6"	54	12.7	40	4	8	I		
12	8'	Reed	S13G	906130	13	13	13	5882	152	14.5	308.25	10.5	40/55	60/85	6 3/4°	2000	½	6"	54	12.7	43	2	2	I		

SMITH REPRESENTATIVE _____ PHONE _____

INTRODUCTION

After the 1976 drilling season, casing requirements were reviewed and design of casing strings standardized. Every effort was made to minimize weight and grade changes for simplicity, cost effectiveness, and to reduce chances of error during handling and running operations. Casing sizes were selected to accommodate designs for wells from 2,000' to 20,000'. Steel grade selection was the controlling factor on design with low hardness (Rockwell C24-28) steel being selected for Arctic application and possible H_2S environment. Below is listed casing sizes and design criteria required by Husky:

		YIELD STRENGTH (PSI)		MINIMUM PRESSURE REQUIREMENT (PSI)		
SIZE[1]	WEIGHT	MIN.	MAX.	COLLAPSE	BURST	CONNECTION
20"	133#/ft.	55,000	80,000	1,500	3,050	STC
13-3/8"[2]	72#/ft.	95,000	110,000	3,450	5,350	BTC
9-5/8"[3]	53.5#/ft.	95,000	110,000	8,850	7,900	BTC
9-3/4"[3]	59.2#/ft.	95,000	110,000	9,750	8,540	BTC
7"	38#/ft.	95,000	110,000	12,600	9,200	BTC

(1) OD tolerance to be within API requirements unless adjustment absolutely necessary to meet ID requirements.

(2) Special drift to 12.25".

(3) Special drift to 8.50".

The following are additional requirements primarily to assure that the steel exhibits the metallurgical properties for Arctic applications and resistance to hydrogen embrittlement.

1. All pipe that is 13-3/8" OD and smaller to be quenched and tempered.

2. Run Charpy "V" notch tests on two random samples per 50 tons per heat. Minimum acceptance of 15 ft.-lb.@-50°F. Furnish test reports with order.

3. Perform all testing normally required for API approved pipe.

4. Furnish test reports for ladle analysis, quantitative analysis, and all check tests as per API requirements.

In addition, the following handling requirements were made:

1. Collars must be of same steel grade as pipe body.

2. Apply an API modified thread compound on mill-installed collar before bucking on.

3. Inspect at mill using Tuboscope's Amalog IV or equivalent on 9-3/4" and smaller, and at least magnetic particle on 13-3/8" and 20". All pipe to have special and area inspection together with full length API drifting. (Note special drifting requirements.)

4. Apply Arctic grade grease on all connections before installing thread protectors.

5. Install closed-end type thread protectors. Plastic plugs can be used to secure wrench openings in protectors.

6. Buck up thread protectors with impact wrench. Both mill and third party inspection personnel should observe the installation of thread protectors.

7. Palletize or containerize the tubulars, if possible, prior to shipment from mill. Do not haul pipe like cordwood in gondola railroad cars.

8. All pipe to be Range 3.

9. No "V" notching or metal stenciling on pipe body or collars.

Casing originally programmed for Koluktak Test Well No. 1 was for a 4500' well with 20" conductor at ±100', 13-5/8" casing at ±500' and 9-5/8" casing at ±2600'. The U. S. Geological Survey requested a change in total depth of the well to 6000' just prior to spud. To insure this depth was reached in the drilling time available, Husky revised the casing program to a 20" conductor set at ±100' and 9-5/8" casing set at 1500'. Actual casing run was 20" conductor at 106' and 9-5/8" casing at 1525'. The 9-5/8" casing was set high to the original well plan to protect against possible gas accumulations in sandstones of the Nanushuk Group below 1500'.

The 9-5/8" annulus was displaced with diesel from 1300' to the surface when the well was abandoned. This was to allow future re-entry into the upper well bore by U. S. Geological Survey personnel to obtain temperature measurements.

CASING TALLY
SUMMARY SHEET

DATE: March 27, 1981

FIELD National Petroleum Reserve in AK . LEASE & WELL NO. Koluktak Test Well No. 1 . TALLY FOR 9 5/8" CASING

SUMMARY OF PAGE MEASUREMENTS

	NO OF JOINTS	FEET	00'S
PAGE 1	40	1739	49
PAGE 2			
PAGE 3			
PAGE 4			
PAGE 5			
PAGE 6			
PAGE 7			
PAGE 8			
PAGE 9			
TOTAL	40	1739	49

SUMMARY OF DEPTH CALCULATIONS

		NO OF JOINTS	FOOTAGE FEET	FOOTAGE 00'S
1	TOTAL CASING ON RACKS	40	1739	49
2	LESS CASING OUT (JTS NOS	5	216	12
3	TOTAL (1 - 2)		1523	37
4	SHOE LENGTH		1	95
5	FLOAT LENGTH		1	87
6	MISCELLANEOUS EQUIPMENT LENGTH		-	-
7	TOTAL CASING AND EQUIPMENT FROM CEMENT HEAD (3 + 4 + 5 + 6)		1527	19
8	LESS WELL DEPTH (KB REFERENCE)		26	56
9	"UP" ON LANDING JOINT		29	06

Weight indicator before cementing: 100,000 ; after slack-off _____ ; inches slacked off _____ .

SUMMARY OF STRING AS RUN

WEIGHT	GRADE	THREAD	MANUFACTURER	CONDITION NEW-USED	LOCATION IN STRING	NO OF JOINTS	FOOTAGE	INTERVAL
53.5	S-95	Buttress		New	JT NO. 1 THRU NO. 40	40	1739.49'	
					JT NO. THRU NO.			
					JT NO. THRU NO.			
					JT NO. THRU NO.			
					JT NO. THRU NO.			
					JT NO. THRU NO.			
					JT NO. THRU NO.			

PAGE 1 OF 1 CASING TALLY DATE: March 27, 1981

FIELD NPRA LEASE & WELL NO. Koluktak T. W. No. 1 TALLY FOR 9 5/8 " CASING

JOINT NO	FIRST MEASUREMENT FEET	FIRST MEASUREMENT 00'S	CHECK MEASUREMENT FEET	CHECK MEASUREMENT 00'S	WT GR.
1	1	95	Shoe		
2	42	88			
3	43	63			
4	1	87	Duplex Collar		
5	40	28			
6	46	41			
7	42	55			
8	42	80			
9	41	93			
0	45	76			
TOTAL A	350	06			

JOINT NO	FIRST MEASUREMENT FEET	FIRST MEASUREMENT 00'S	CHECK MEASUREMENT FEET	CHECK MEASUREMENT 00'S	WT GR.
1	46	25			
2	43	63			
3	45	32			
4	42	23			
5	43	10			
6	43	60			
7	44	80			
8					
9					
0					
TOTAL D	308	93			

1	41	20			
2	46	36			
3	41	91			
4	41	40			
5	44	90			
6	43	12			
7	45	73			
8	44	10			
9	41	90			
0	42	30			
TOTAL B	432	90			

1					
2					
3					
4					
5					
6					
7					
8					
9					
C					
TOTAL E					

1	46	82			
2	44	63			
3	42	26			
4	39	92			
5	44	42			
6	45	58			
7	43	01			
8	36	38			
9	42	98			
0	45	42			
TOTAL F	427	28			

TOTAL A	350	06			
TOTAL B	432	92			
TOTAL C	435	28			
TOTAL D	308	93			
TOTAL E					
TOTAL PAGE	1527	19			

CASING AND CEMENTING REPORT

WELL NAME Koluktak Test Well No. 1

LOCATION National Petroleum Reserve in Alaska

RAN CASING AS FOLLOWS:

35	Jts	9 5/8"	S-95	53.5#	Buttress	
	Jts					
	Jts					

Shoe @ 1524.69 Float @ 1434.36 DV @ _____

Centralizers 1514', 1481', 1438', and 1396'

FIRST STAGE

Sx of Cement 750 Type Pmfst II Additives - % Excess .07%

Preflush 20 Barrel Water Initial Pressure 500
2 Barrels Water

Displacement 20 Barrels Mud Final Pressure 500

Plug Down 10:00 AM ~~PM~~

SECOND STAGE - Stage Collar @ _____

Sx of Cement _____ Type _____ Additives _____ % Excess _____

Preflush _____ Initial Pressure _____

Displacement _____ bbls. Final Pressure _____

Plug Down _____ AM PM

Well Depth 1538' Overall Casing Tally 1527.19

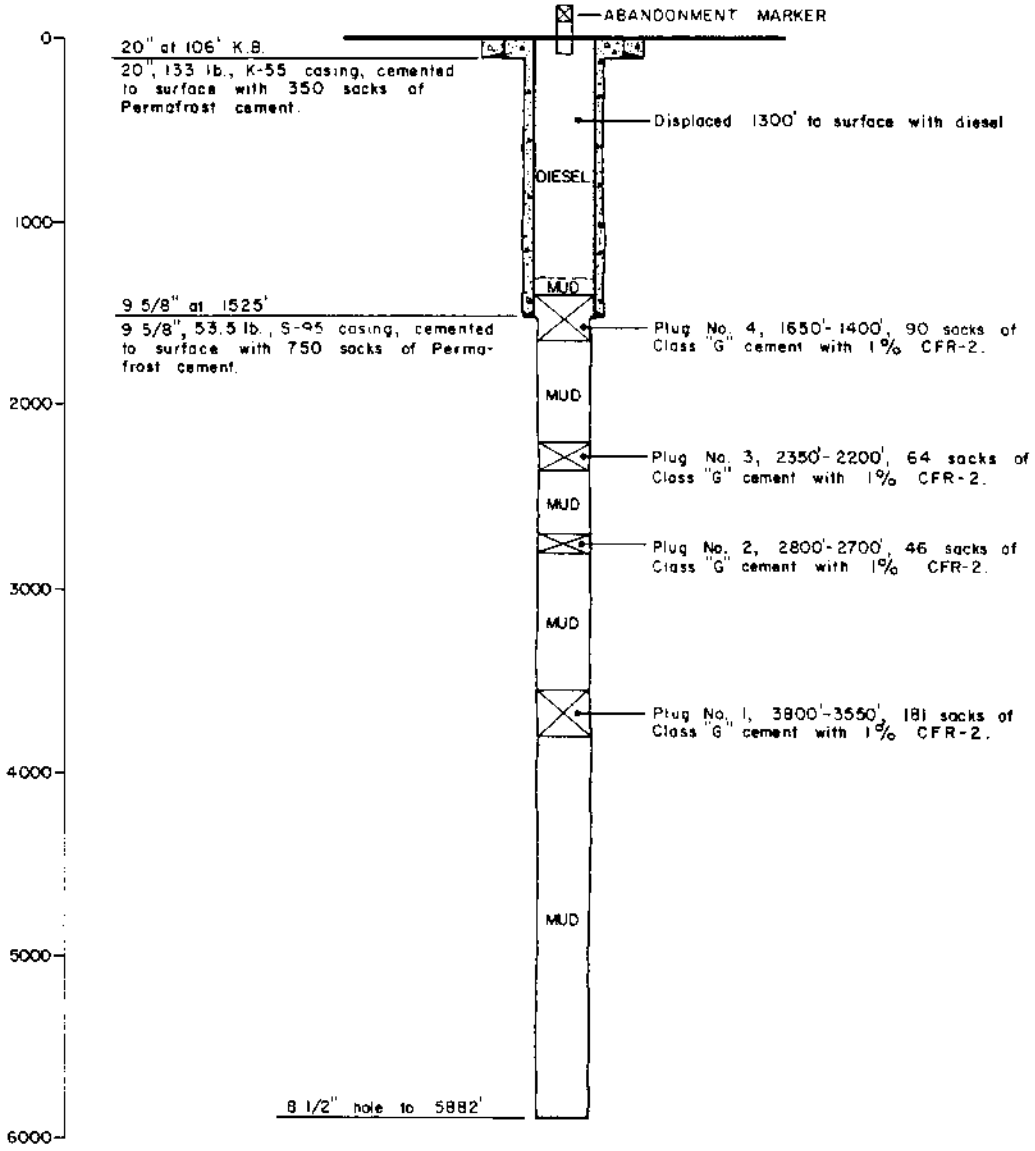
KB to Top of Cut Off Casing 26.56 Length of Landing Jt Removed 29.06

Weight Indicator Before Cementing 100,000 lbs.

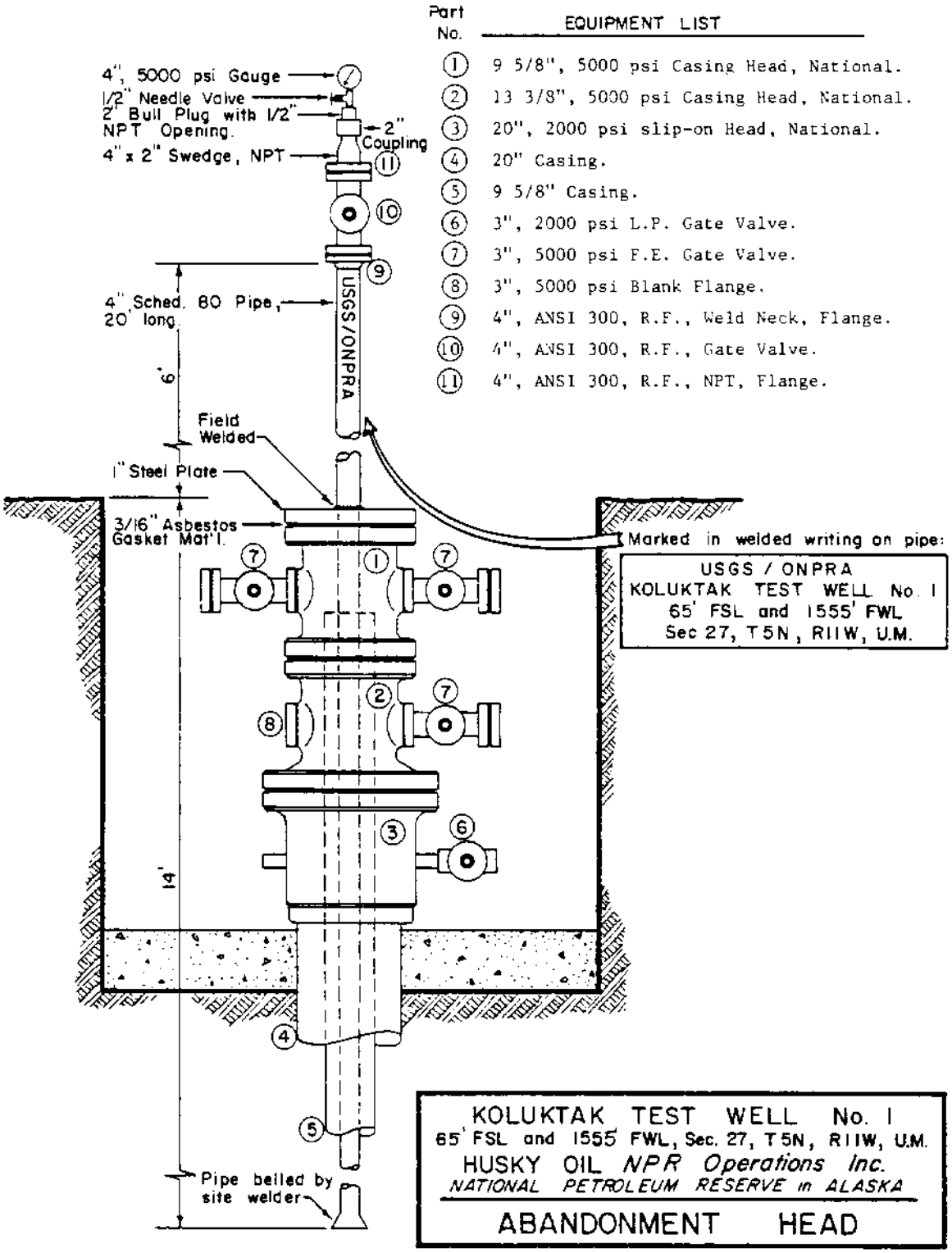
Weight Indicator After Slacking Off - lbs.

Inches Slacked Off None

Remarks:



KOLUKTAK TEST WELL No. 1
65' FSL and 1555' FWL, Sec. 27, T5N, R11W, U.M
HUSKY OIL *NPR Operations Inc.*
NATIONAL PETROLEUM RESERVE in ALASKA
WELLBORE SCHEMATIC


Part No.
EQUIPMENT LIST
1 9 5/8", 5000 psi Casing Head, National.
2 13 3/8", 5000 psi Casing Head, National.
3 20", 2000 psi slip-on Head, National.
4 20" Casing.
5 9 5/8" Casing.
6 3", 2000 psi L.P. Gate Valve.
7 3", 5000 psi F.E. Gate Valve.
8 3", 5000 psi Blank Flange.
9 4", ANSI 300, R.F., Weld Neck, Flange.
10 4", ANSI 300, R.F., Gate Valve.
11 4", ANSI 300, R.F., NPT, Flange.
4", 5000 psi Gauge
1/2" Needle Valve
2" Bull Plug with 1/2" NPT Opening.
4" x 2" Swedge, NPT
2" Coupling
4" Sched. 80 Pipe, 20' long.
USGS/ONPRA
6'
Field Welded
1" Steel Plate
3/16" Asbestos Gasket Mat'l.
14'
Pipe belled by site welder
Marked in welded writing on pipe:
USGS / ONPRA
KOLUKTAK TEST WELL No. 1
65' FSL and 1555' FWL
Sec 27, T5N, R11W, U.M.
KOLUKTAK TEST WELL No. 1
65' FSL and 1555' FWL, Sec. 27, T5N, R11W, U.M.
HUSKY OIL NPR Operations Inc.
NATIONAL PETROLEUM RESERVE in ALASKA
ABANDONMENT HEAD

RIG INVENTORY

Draw Works

Oilwell 860, Serial No. H38-15, Double Drum, Main Drum 1 3/8" Lebus, Bill Drilling Control, Crown-O-Matic Crown Saver, and National Type D Dead Line Anchor.

Engines

Three (3) - Caterpillar D-398 diesel engines enclosed in Herc size steel buildings.

Auxiliary Brake

Elmago Model 6032, Serial No. 6487.

Draw Works Drive

Oilwell Model 1600, Serial No. H-37-21.

Mast

Lee. C. Moore Model 1,025,000, Serial No. T-3538, 142 ft. hook load with 12 lines 703,000 pound hook load with 10 lines 683,000 pounds.

Substructure

Lee C. Moore - capacity 700,000 pound casing load plus a set back load of 400,000 pounds. Floor height 24', motor base height 16.50', G.L. to table beams of 22.10'.

Rotary Table

Oilwell Model A-2750, Size 27 1/2", Serial No. R-106-84, capacity 465 tons.

Travelling Blocks

Oilwell Model 480, Serial No. B-50-98, 6 sheaves 480 ton rating.

Hook

W. Wilson Model Hydra-Hook, Serial No. 26, 500 ton rating.

Swivel

Oilwell Model PC 425, Serial No. 5-31-8. Capacity 425 ton dead load, 259 ton rotating.

Links

BJ 3 1/2" x 120" capacity 500 ton. Spare BJ 2 3/4" x 108" capacity 350 ton.

Pumps

No. 1 - Oilwell Model A-1000P, 7 3/4" x 18", Serial No. P-117-36.
No. 2 - Oilwell Model A-1000P, 7 3/4" x 18", Serial No. P-117-37.

Pulsation Dampener

Hydril Model K-20 3000, Serial No. 36082.

Generators

No. 1 - E. M. Model Bemac II, 250 KW 1200 RPM engine make Caterpillar, Model D-353E, Serial No. 46B3266.

No. 2 - E. M. Model Bemac II, 250 KW 1200 RPM engine make Caterpillar, Model D-353E, Serial No. 46B3268.

Accumulator

Stewart Stevenson Model Koomey T-15100-35, reservoir capacity 180 gallons. Charged capacity 160 gallons with 15 HP chain driven, 3/4" x 2 1/4" triplex pump, and 4 nitrogen bottles for back up. Remove system Model Gerc-3.

Blowout Preventors

One (1) - 13-5/8" x 5000# Hydril G.K., Serial No. 33850.
One (1) - 13-5/8" x 5000# Double Shaffer type L.W.S.
One (1) - 13-5/8" x 5000# Single Shaffer type L.W.S.

Choke Manifold

As per attached drawing, but less automatic choke. All 3" x 5000 psi W.P. valves and fittings insulated and heated steel building.

Wash Down Pumps

Two (2) - 3" x 2" Mission pumps driven by 20 HP electric motors.
High Pressure Blowout Preventer Test Pump.

Air Compressor

No. 1 - Westinghouse Model 4WC, Serial No. 457-1800.
No. 2 - Westinghouse Model 4WC, Serial No. 457-1756.

Air Receivers

One (1) 36" x 12', 865 cubic foot capacity 150 psi working pressure.

Mud Tanks

No. 1 Shaker Tank - width 9.50', length 41.0', height 7.50'. "U" shaped bottom, insulated on all sides, and has steel insulated cover. Capacity 350 barrels.

No. 2 Center Tank - width 9.50', length 39.0', height 7.50'. "U" shaped bottom, insulated on all sides, and has steel insulated cover. Capacity 350 barrels.

No. 3 Suction Tank - width 9.50', length 36.55', height 7.50'. "U" shaped bottom, insulated, on all sides, and has steel insulated cover.

No. 4 Premix Tank - with two agitators. Width 8.50', length 35' with winterization. Capacity 192 barrels.

1 - 6" low pressure mud system
1 - 4" high pressure mud system
2 - 3 HP agitators
2 - 10 HP agitators
1 - 7 1/2 HP agitator.

Shale Shaker

Dual Brandt Shaker.

Degasser

Gas-Hogg, Model GA-TX.

Desander

Bauer, Model 623-4, two 12" cones 1200 GPM.

Desilter

Pioneer 11-4" DSC-400G cones 1200 GPM.

Combination Water and Fuel Tank

Water Tank - 30' x 8' x 8' rectangular - 400 barrels.
Fuel Tank - 26.50' x 6.50' x 6.50' cylinder type - 6,000 gallons.

Dog House

Length 32', width 9.0', height 8.02' steel insulated with 3/8" plywood interior.

Generator and Accumulator Building

Generator No. 1 - 31' long, 9.50' wide, 8.32' high.
Generator No. 2 - 31' long, 9.50' wide, 8.32' high.

Boilers

Two Automatic 100 HP.

Air Heater

1. Air Heaters Tioga, Model IDF 205-4M.M, Serial No. 103.
2. Air Heaters Tioga, Model IDF 2055-815M.M BTU, Serial No. 105.

Tongs

W. Wilson Type AAX with all sizes of heads to 13-3/8".

Winch

Germatic Model 6-255EC, type hydraulic line size 9/16".

Slips

Two (2) sets Varco Model SDXL Size 5".
One (1) set Varco Model DCSL Size 9".
One (1) set Varco Model CMSXL Size 20SEG.
One (1) set B Ross Size 7".

Elevators

Two (2) sets W. Wilson, Type 350 ton 18 degrees 5".
One (1) set W. Wilson, Type A 4-1/2".
One (1) set W. Wilson, Type 50 ton 13-3/8".
One (1) set W. Wilson, Type 50 ton 13-3/8".
One (1) set B. J., Type A-50 ton 7".
One (1) set W. Wilson, Type A 50 ton 7" with 6-1/4" bushings.

Kelly

One (1) Drilco 5-1/4" Hex 4-1/2" IF 40' long.
One (1) Baash Ross 5-1/4" Hex 4-1/2" IF 40' long.

Kelly Spinner

Varco Model 6200 air operated.

Survey Instrument

Totco, O.D. 1-5/8" double punch 8 degrees.

Kelly Drive

Varco Model HD type pin drive 5-1/4" Hex.
24 - 6-1/2"/6-3/4" with 5" H90 Connectors.
24 - 7-3/4" with 6 5/8" Regular Connectors.

Drill Pipe

310 Joints 5" Grade E 18 Degrees 4-1/2" IF.
158 Joints 5" Grade G 18 Degrees 4-1/2" IF.

Fishing Tools

One (1) 8 1/8" OD and one (1) 5/8" OD Series 150 Bowen Over Shot top connection 5 1/2".
F.H. Maximum Catch 9" with full range of grapples.

Junk Basket

One (1) - 4-1/2" R 6-5/8" OD Skirt Junk Basket.

Other Equipment

Tool House - length 42', width 9.0', height 8.35' Steel insulated and heated.
One (1) Atco 24' x 40' fold away shop building.
One (1) Full Set of sectional rig matting.